

Claims

What is claimed is:

- Sub E1*
1. An optical interlink comprising:
a light pipe having a first end optically coupled to an optical transducer and a second end arranged to provide an optical data port.
 2. The optical interlink of claim 1 wherein the optical transducer capable of transmitting and receiving information optically.
 3. The optical interlink of claim 2 wherein the optical transducer uses infra-red light to transmit and receive information.
 4. The optical interlink of claim 1 wherein the light pipe further comprising a receive light pipe and a transmit light pipe.
 5. The optical interlink of claim 4 wherein the transmit light pipe further comprising:
a first lens between the first end of the light pipe and the optical transducer, the first formed to optically couple the optical transducer to the transmit light pipe; and
a second lens placed to increase an angle of light exiting optical data port.
 6. The optical interlink of claim 5 wherein the first lens and second lens being formed as part of the transmit light pipe.
 7. The optical interlink of claim 4 wherein the receive light pipe further comprising:
a first lens between the first end of the light pipe and the optical transducer, the first lens formed to optically couple the optical transducer to the receive light pipe; and
a second lens placed to collimate light received at the optical data port into the second end of the light pipe.

1 8. The optical interlink of claim 7 wherein the first lens being formed as
2 part of the receive light pipe.

1 9. An optical interlink comprising:
2 an optical transducer capable of optically exchanging information;
3 a light pipe having a first end and a second end arranged to provide an
4 optical data port; and
5 a first lens formed to collimate light between the first end of the light
6 pipe and the optical transducer.

1 10. The optical interlink of claim 9 wherein the optical transducer uses
2 infra-red light to transmit and receive information

1 11. The optical interlink of claim 2 wherein the light pipe further
2 comprising a receive light pipe and a transmit light pipe.

1 12. The optical interlink of claim 2 wherein the light pipe further
2 comprising:
3 a transmit lens that increases an angle of illumination of light exiting
4 the optical data port; and
5 a receive lens that couples light incident on the optical data port into
6 the light pipe.

1 13. A printer comprising:
2 a print engine;
3 a controller connected to the print engine, the controller controlling
4 operation of the print engine, the controller including an optical transducer capable
5 of optically transmitting and receiving information; and
6 a light pipe having a first end optically coupled to the optical
7 transducer and a second end arranged to provide an optical data port.

1 14. The printer of claim 13 wherein the optical transducer uses infra-red
2 light to transmit and receive information.

1 15. The printer of claim 13 wherein the light pipe further comprising a
2 receive light pipe and a transmit light pipe.

1 16. The printer of claim 15 wherein the transmit light pipe further
2 comprising:
3 a first lens between the first end of the light pipe and the optical
4 transducer, the first formed to optically couple the optical transducer to the transmit
5 light pipe; and
6 a second lens placed to increase an angle of light exiting optical data
7 port.

1 17. The printer of claim 16 wherein the first lens and second lens being
2 formed as part of the transmit light pipe.

1 18. The printer of claim 15 wherein the receive light pipe further
2 comprising:
3 a first lens between the first end of the light pipe and the optical
4 transducer, the first lens formed to optically couple the optical transducer to the
5 receive light pipe; and
6 a second lens placed to collimate light received at the optical data
7 port into the second end of the light pipe.

1 19. The printer of claim 18 wherein the first lens being formed as part of
2 the receive light pipe.

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